

JC20 Rec'd PCT/PTO 27 JUN 2005

**TRANSLATION OF ANNEXES OF THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

3. The authority has concluded that the unity of invention according to Rules 13.1, 13.2 and 13.3 is not met by the following reasons:

Unity of invention is met only if a technical relation defined by one or more the same or corresponding "specific technical features" exists among the claimed inventions. "Specific technical features" are defined in Rule 13.2 of the Regulations under the PCT as the technical features that define the contribution of each invention, taken as a whole, to the state of the art. In the claims on file the unity of invention is missing between the "apparatus" subject matter (claim 5) and the "method" subject matter (claim 1), because the invention of claim 5 lacks a "special technical feature" that is the same or corresponding to a "specific technical feature" of claim 1. The specific technical feature of claim 1 is recording and analyzing the dynamics of modification of infrared radiation intensity on different parts of the object trajectory, and calculating the object movement parameters therefrom. The specific technical feature of claim 5 is a mechanical oscillation receiver connected to an infrared camera.

4. In preparing the present Report, all parts of the International Application have been subjected to International Preliminary Examination.

2. References and explanations supporting the statement (Rule 10.7):

D1 – WO 1996/025986 A1,

D2 – US 5,160,839 A,

D3 – US 6,367,332 B1,

D4 – RU 2,140,720 C1.

The most closely related to embodiments of a method for determining dynamic movement parameters of a material object in sports competitions and training (claim 1) are the methods taught in D1 and D2. The method of D1 comprises recording, in an infrared spectral range, the trajectories of infrared footmarks resulting from interaction of the object with surrounding objects. The method of D2 comprises recording, in an infrared spectral range, the trajectories of infrared footmarks resulting from interaction of the object with environment.

In contrast to the prior art methods, embodiments of the claimed method for improving accuracy of determining dynamic parameters of a moving object comprise recording dynamic modifications of infrared radiation intensity on different parts of the object trajectory, and calculating the object movement parameters therefrom. The distinctions are unknown and non-obvious for a person skilled in the art. Hence, claims 1 to 4 meet the inventive step requirement.

D1 teaches an apparatus including at least one infrared camera and a computer.

An apparatus defined in claim 6 differs from the prior art in that it further comprises a mechanical oscillation receiver.

D3 teaches the use of a mechanical oscillation receiver to detect movement of an object in sports competitions, but in contrast to D3 the mechanical oscillation receiver according to the invention is connected to an infrared camera and used to determine the most critical instants of opening and closing the infrared camera, this improving the accuracy of defining the movement parameters of a material object. Therefore, the apparatus according to claims 6 to 10 meets the inventive step requirement.

Claim 11 is written incorrectly, this making its scope unclear. It is advisable to rewrite the claim e.g. as follows: "A method of evaluating skill and development potential of sportsmen, comprising defining dynamic movement parameters of a material object in sports competitions or training using a method as set forth in claims 1 to 4 and an apparatus as set forth in claims 5 to 10."